

STATEMENT UNDER ARTICLE 19(1).

Having received and read the written opinion of the International Searching Authority and in order to ameliorate the situation of my invention, I propose herewith the following amendments under article 19(1),described on the accompanying sheet 'AMENDED CLAIMS'.

'Claim 1 as filed is replaced by the amended claim 1. New claim 2 is added.'

With regard to the amended claim 1, the reasons for the changes are the following: I admit that, among the three examples (slot,cone,cavity,Figs2,3,4 respectively) contained in the description of my invention, the examples on cones and cavities are physically similar to the pores as described in ref D1,Figs 3 & 4,(12) of the written opinion. So consequently I decided to withdraw them in order to diminish the relevance of citations mentioned therein, and retain just the example using modules (Fig.6,(13)) based on slots (Fig.2,(26)).

In my opinion, a slot is physically not the same in comparison with a pore on a membrane, ref D1,Figs.3 & 4,(12), because in my case the slot is conceived as having a microscopic cross section but a considerable length. In fact, if one looks at the construction hints (p.9 of the description), the slots (Fig.9) are composed of parallel rods with microscopic triangular sections (Fig.9,(19)) and with surfaces perfectly flat (planarized) in order that the adsorbed layer may work effectively.

Said surfaces are the simplest ones, they can easily be made with the help of MEMS technology and they are the best ones, as shown by my detailed computations.

Moreover, the flow of molecules within the membrane's pores is characterized by a random motion ie erratic Brownian movement (ref.D1,col.2,lines 18,19), while the situation within a slot of my invention is quite different and has nothing to do with Brownian motion (see my description or amended claim 1).

As to the added claim 2, I remark that, by my invention the temperature of the gas,during the isobaric expansion, must be kept below the ambient one, in order that ambient air (Fig.5,(7)) may be used for the heat exchanger (Fig.5,(6)).

In this way, we have continuously energy production and at the same time refrigeration, without needing any external heat source. The device is actually a 'perpetual motion machine of the second kind', an as yet unsolved problem of thermodynamics (see [8],p.64 of my references).

Concerning par.3 of the written opinion, I believe that I have given adequate information in the description (construction hints,modules Fig.6(13),and rod assemblies constituting the special slots Fig.9(19),(20),so that a skilled person can easily produce the device (certainly with the help of MEMS technology).

Thus, I hope to have disclosed the device in a manner more close to the provision of article 5 PCT.

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On this occasion, I would like to point out that my invention is based on a fundamental (theoretical and experimental) work carried out on the external friction of gases by W.Gaede (ref.[1] of my description) and consequently I consider my work as absolutely consolidated.

Finally, I think there is no impact that the above amendments might have on the description and the drawings of my invention.

Athens Sept. 13, 2005

The Inventor

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